

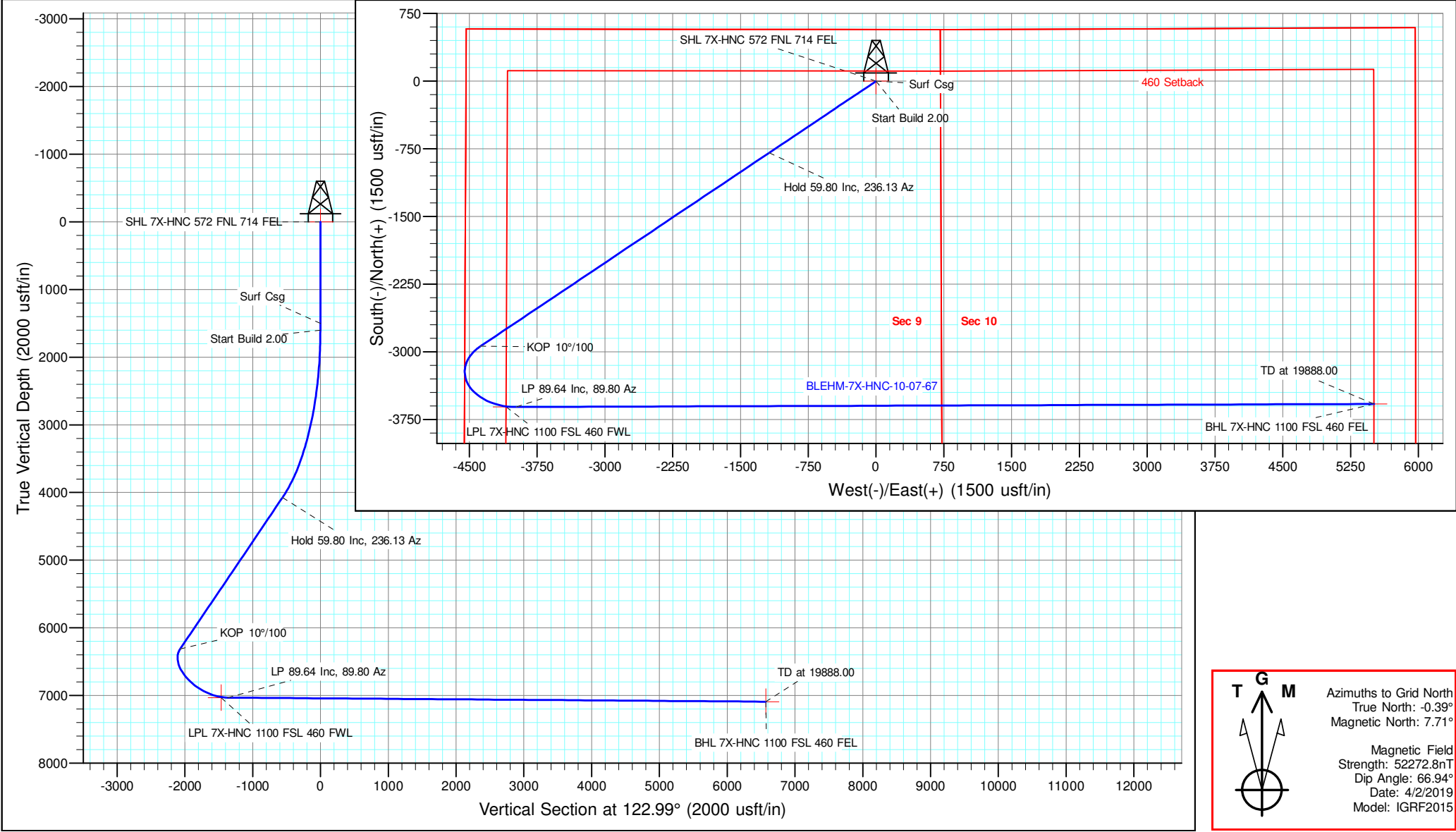
Well Name:
BLEHM-7X-HNC-10-07-67

Project Name:
Sec. 9-T7N-R67W

Pad Name:
BLEHM Pad

ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	Surf Csg	
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	Start Build 2.00	
4590.04	59.80	236.13	4075.98	-793.58	-1182.10	-559.31	1423.78	Hold 59.80 Inc, 236.13 Az	
9041.36	59.80	236.13	6315.04	-2937.93	-4376.27	-2070.62	5270.97	KOP 10°/100	
10398.66	89.64	89.80	7032.50	-3611.52	-3978.50	-1370.19	6380.46	LP 89.64 Inc, 89.80 Az	
19888.00	89.64	89.80	7092.77	-3578.15	5509.59	6569.53	15868.60	TD at 19888.00	

Geodetic Datum:				Elevation:				
North American Datum 1983 US State Plane 1983, Colorado Northern Zone				Ground Elevation: 5088.00 KB Elevation: KB @ 5115.00usft				
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SHL 7X-HNC 572 FNL 714 FEL	0.00	0.00	0.00	1459956.949	3169069.309	40.594387	-104.891201	Point
LPL 7X-HNC 1100 FSL 460 FWL	7032.00	-3611.92	-4092.70	1456345.029	3164976.612	40.584549	-104.906025	Point
- plan misses target center by 11.43usft at 10286.19usft				MD (7023.79	279.79	3604.36 N, -4090.22 E		
BHL 7X-HNC 1100 FSL 460 FEL	7093.00	-3578.15	5510.59	1456378.804	3174579.894	40.584460	-104.871450	Point



NICKEL ROAD

O P E R A T I N G

Nickel Road Operating

Sec. 9-T7N-R67W

BLEHM Pad

BLEHM-7X-HNC-10-07-67

Wellbore #1

Plan: Plan #3

Standard Planning Report - Geographic

11 March, 2021

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-7X-HNC-10-07-67
Company:	Nickel Road Operating	TVD Reference:	KB @ 5115.00usft
Project:	Sec. 9-T7N-R67W	MD Reference:	KB @ 5115.00usft
Site:	BLEHM Pad	North Reference:	Grid
Well:	BLEHM-7X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Project	Sec. 9-T7N-R67W, Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	BLEHM Pad				
Site Position:		Northing:	1,458,460.008 usft	Latitude:	40.590318
From:	Lat/Long	Easting:	3,166,936.305 usft	Longitude:	-104.898918
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.39 °

Well	BLEHM-7X-HNC-10-07-67					
Well Position	+N/-S	0.00 usft	Northing:	1,459,956.949 usft	Latitude:	40.594387
	+E/-W	0.00 usft	Easting:	3,169,069.309 usft	Longitude:	-104.891201
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,088.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/2/2019	8.10	66.94	52,272.76689572

Design	Plan #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	122.99

Plan Survey Tool Program	Date	3/10/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,887.74 Plan #3 (Wellbore #1)	MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,590.04	59.80	236.13	4,075.98	-793.58	-1,182.10	2.00	2.00	0.00	236.13	
9,041.36	59.80	236.13	6,315.04	-2,937.93	-4,376.27	0.00	0.00	0.00	0.00	
10,398.66	89.64	89.80	7,032.50	-3,611.52	-3,978.50	10.00	2.20	-10.78	-127.41	
19,888.00	89.64	89.80	7,093.00	-3,578.15	5,510.59	0.00	0.00	0.00	0.00	BHL 7X-HNC 1100 F5

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-7X-HNC-10-07-67
Company:	Nickel Road Operating	TVD Reference:	KB @ 5115.00usft
Project:	Sec. 9-T7N-R67W	MD Reference:	KB @ 5115.00usft
Site:	BLEHM Pad	North Reference:	Grid
Well:	BLEHM-7X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
Laramie-Fox Hills - SHL 7X-HNC 572 FNL 714 FEL									
100.00	0.00	0.00	100.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
200.00	0.00	0.00	200.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
300.00	0.00	0.00	300.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
Upper Pierre									
400.00	0.00	0.00	400.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
500.00	0.00	0.00	500.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
600.00	0.00	0.00	600.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
700.00	0.00	0.00	700.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
800.00	0.00	0.00	800.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
900.00	0.00	0.00	900.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
1,000.00	0.00	0.00	1,000.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
1,100.00	0.00	0.00	1,100.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
1,200.00	0.00	0.00	1,200.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
1,300.00	0.00	0.00	1,300.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
1,314.00	0.00	0.00	1,314.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
Pierre Shale									
1,400.00	0.00	0.00	1,400.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
1,500.00	0.00	0.00	1,500.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
Surf Csg									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201
Start Build 2.00									
1,700.00	2.00	236.13	1,699.98	-0.97	-1.45	1,459,955.976	3,169,067.860	40.594384	-104.891207
1,800.00	4.00	236.13	1,799.84	-3.89	-5.79	1,459,953.059	3,169,063.515	40.594376	-104.891222
1,900.00	6.00	236.13	1,899.45	-8.75	-13.03	1,459,948.202	3,169,056.279	40.594363	-104.891248
2,000.00	8.00	236.13	1,998.70	-15.54	-23.15	1,459,941.409	3,169,046.162	40.594345	-104.891285
2,100.00	10.00	236.13	2,097.47	-24.26	-36.13	1,459,932.690	3,169,033.174	40.594321	-104.891332
2,200.00	12.00	236.13	2,195.62	-34.89	-51.98	1,459,922.056	3,169,017.333	40.594292	-104.891389
2,300.00	14.00	236.13	2,293.06	-47.43	-70.65	1,459,909.518	3,168,998.657	40.594258	-104.891457
2,400.00	16.00	236.13	2,389.64	-61.86	-92.14	1,459,895.093	3,168,977.169	40.594219	-104.891535
2,500.00	18.00	236.13	2,485.27	-78.15	-116.41	1,459,878.797	3,168,952.896	40.594175	-104.891622
2,600.00	20.00	236.13	2,579.82	-96.30	-143.44	1,459,860.652	3,168,925.867	40.594125	-104.891720
2,700.00	22.00	236.13	2,673.17	-116.27	-173.19	1,459,840.678	3,168,896.115	40.594071	-104.891828
2,800.00	24.00	236.13	2,765.21	-138.05	-205.63	1,459,818.901	3,168,863.676	40.594012	-104.891945
2,900.00	26.00	236.13	2,855.84	-161.60	-240.72	1,459,795.346	3,168,828.589	40.593948	-104.892072
3,000.00	28.00	236.13	2,944.94	-186.91	-278.41	1,459,770.043	3,168,790.898	40.593879	-104.892208
3,100.00	30.00	236.13	3,032.39	-213.93	-318.66	1,459,743.022	3,168,750.648	40.593806	-104.892354
3,200.00	32.00	236.13	3,118.11	-242.63	-361.42	1,459,714.316	3,168,707.889	40.593728	-104.892509
3,300.00	34.00	236.13	3,201.97	-272.99	-406.64	1,459,683.961	3,168,662.672	40.593645	-104.892672
3,400.00	36.00	236.13	3,283.88	-304.96	-454.26	1,459,651.993	3,168,615.053	40.593558	-104.892844
3,500.00	38.00	236.13	3,363.74	-338.50	-504.22	1,459,618.450	3,168,565.088	40.593467	-104.893025
3,600.00	40.00	236.13	3,441.45	-373.57	-556.47	1,459,583.375	3,168,512.841	40.593372	-104.893214
3,700.00	42.00	236.13	3,516.92	-410.14	-610.93	1,459,546.810	3,168,458.374	40.593273	-104.893411
3,800.00	44.00	236.13	3,590.05	-448.15	-667.55	1,459,508.799	3,168,401.754	40.593169	-104.893616
3,900.00	46.00	236.13	3,660.76	-487.56	-726.26	1,459,469.388	3,168,343.048	40.593062	-104.893828
4,000.00	48.00	236.13	3,728.95	-528.32	-786.98	1,459,428.626	3,168,282.330	40.592952	-104.894048
4,100.00	50.00	236.13	3,794.56	-570.39	-849.64	1,459,386.562	3,168,219.673	40.592837	-104.894275
4,200.00	52.00	236.13	3,857.48	-613.70	-914.15	1,459,343.248	3,168,155.153	40.592720	-104.894508
4,300.00	54.00	236.13	3,917.66	-658.21	-980.46	1,459,298.736	3,168,088.849	40.592599	-104.894748
4,400.00	56.00	236.13	3,975.02	-703.87	-1,048.47	1,459,253.080	3,168,020.842	40.592475	-104.894994
4,500.00	58.00	236.13	4,029.48	-750.61	-1,118.09	1,459,206.337	3,167,951.214	40.592348	-104.895246
4,590.04	59.80	236.13	4,075.98	-793.58	-1,182.10	1,459,163.367	3,167,887.207	40.592231	-104.895477
Hold 59.80 Inc, 236.13 Az									

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-7X-HNC-10-07-67
Company:	Nickel Road Operating	TVD Reference:	KB @ 5115.00usft
Project:	Sec. 9-T7N-R67W	MD Reference:	KB @ 5115.00usft
Site:	BLEHM Pad	North Reference:	Grid
Well:	BLEHM-7X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey										
Measured			Vertical			Map				
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
4,600.00	59.80	236.13	4,081.00	-798.38	-1,189.25	1,459,158.568	3,167,880.058	40.592218	-104.895503	
4,700.00	59.80	236.13	4,131.30	-846.55	-1,261.01	1,459,110.394	3,167,808.300	40.592087	-104.895763	
4,800.00	59.80	236.13	4,181.60	-894.73	-1,332.77	1,459,062.221	3,167,736.542	40.591956	-104.896022	
4,850.50	59.80	236.13	4,207.00	-919.06	-1,369.01	1,459,037.892	3,167,700.303	40.591890	-104.896153	
Sussex										
4,900.00	59.80	236.13	4,231.90	-942.90	-1,404.52	1,459,014.048	3,167,664.785	40.591825	-104.896282	
5,000.00	59.80	236.13	4,282.20	-991.07	-1,476.28	1,458,965.875	3,167,593.027	40.591694	-104.896541	
5,100.00	59.80	236.13	4,332.50	-1,039.25	-1,548.04	1,458,917.702	3,167,521.269	40.591563	-104.896801	
5,200.00	59.80	236.13	4,382.80	-1,087.42	-1,619.80	1,458,869.528	3,167,449.512	40.591433	-104.897060	
5,300.00	59.80	236.13	4,433.10	-1,135.59	-1,691.55	1,458,821.355	3,167,377.754	40.591302	-104.897320	
5,400.00	59.80	236.13	4,483.40	-1,183.77	-1,763.31	1,458,773.182	3,167,305.996	40.591171	-104.897580	
5,500.00	59.80	236.13	4,533.70	-1,231.94	-1,835.07	1,458,725.009	3,167,234.239	40.591040	-104.897839	
5,544.33	59.80	236.13	4,556.00	-1,253.29	-1,866.88	1,458,703.655	3,167,202.430	40.590982	-104.897954	
Shannon										
5,600.00	59.80	236.13	4,584.00	-1,280.11	-1,906.83	1,458,676.836	3,167,162.481	40.590909	-104.898099	
5,601.98	59.80	236.13	4,585.00	-1,281.07	-1,908.25	1,458,675.881	3,167,161.059	40.590906	-104.898104	
Pierre Shale										
5,700.00	59.80	236.13	4,634.30	-1,328.29	-1,978.58	1,458,628.662	3,167,090.723	40.590778	-104.898358	
5,800.00	59.80	236.13	4,684.61	-1,376.46	-2,050.34	1,458,580.489	3,167,018.966	40.590647	-104.898618	
5,900.00	59.80	236.13	4,734.91	-1,424.63	-2,122.10	1,458,532.316	3,166,947.208	40.590516	-104.898877	
6,000.00	59.80	236.13	4,785.21	-1,472.81	-2,193.86	1,458,484.143	3,166,875.450	40.590385	-104.899137	
6,100.00	59.80	236.13	4,835.51	-1,520.98	-2,265.62	1,458,435.970	3,166,803.693	40.590255	-104.899396	
6,200.00	59.80	236.13	4,885.81	-1,569.15	-2,337.37	1,458,387.796	3,166,731.935	40.590124	-104.899656	
6,300.00	59.80	236.13	4,936.11	-1,617.33	-2,409.13	1,458,339.623	3,166,660.177	40.589993	-104.899915	
6,400.00	59.80	236.13	4,986.41	-1,665.50	-2,480.89	1,458,291.450	3,166,588.419	40.589862	-104.900175	
6,500.00	59.80	236.13	5,036.71	-1,713.67	-2,552.65	1,458,243.277	3,166,516.662	40.589731	-104.900434	
6,600.00	59.80	236.13	5,087.01	-1,761.85	-2,624.40	1,458,195.104	3,166,444.904	40.589600	-104.900694	
6,700.00	59.80	236.13	5,137.31	-1,810.02	-2,696.16	1,458,146.930	3,166,373.146	40.589469	-104.900954	
6,800.00	59.80	236.13	5,187.61	-1,858.19	-2,767.92	1,458,098.757	3,166,301.389	40.589338	-104.901213	
6,900.00	59.80	236.13	5,237.91	-1,906.37	-2,839.68	1,458,050.584	3,166,229.631	40.589207	-104.901473	
7,000.00	59.80	236.13	5,288.22	-1,954.54	-2,911.43	1,458,002.411	3,166,157.873	40.589077	-104.901732	
7,100.00	59.80	236.13	5,338.52	-2,002.71	-2,983.19	1,457,954.238	3,166,086.116	40.588946	-104.901992	
7,200.00	59.80	236.13	5,388.82	-2,050.88	-3,054.95	1,457,906.064	3,166,014.358	40.588815	-104.902251	
7,300.00	59.80	236.13	5,439.12	-2,099.06	-3,126.71	1,457,857.891	3,165,942.600	40.588684	-104.902511	
7,400.00	59.80	236.13	5,489.42	-2,147.23	-3,198.47	1,457,809.718	3,165,870.843	40.588553	-104.902770	
7,500.00	59.80	236.13	5,539.72	-2,195.40	-3,270.22	1,457,761.545	3,165,799.085	40.588422	-104.903030	
7,600.00	59.80	236.13	5,590.02	-2,243.58	-3,341.98	1,457,713.371	3,165,727.327	40.588291	-104.903289	
7,700.00	59.80	236.13	5,640.32	-2,291.75	-3,413.74	1,457,665.198	3,165,655.570	40.588160	-104.903549	
7,800.00	59.80	236.13	5,690.62	-2,339.92	-3,485.50	1,457,617.025	3,165,583.812	40.588029	-104.903808	
7,900.00	59.80	236.13	5,740.92	-2,388.10	-3,557.25	1,457,568.852	3,165,512.054	40.587898	-104.904068	
8,000.00	59.80	236.13	5,791.22	-2,436.27	-3,629.01	1,457,520.679	3,165,440.297	40.587768	-104.904327	
8,100.00	59.80	236.13	5,841.53	-2,484.44	-3,700.77	1,457,472.505	3,165,368.539	40.587637	-104.904587	
8,200.00	59.80	236.13	5,891.83	-2,532.62	-3,772.53	1,457,424.332	3,165,296.781	40.587506	-104.904846	
8,300.00	59.80	236.13	5,942.13	-2,580.79	-3,844.28	1,457,376.159	3,165,225.023	40.587375	-104.905106	
8,400.00	59.80	236.13	5,992.43	-2,628.96	-3,916.04	1,457,327.986	3,165,153.266	40.587244	-104.905366	
8,500.00	59.80	236.13	6,042.73	-2,677.14	-3,987.80	1,457,279.813	3,165,081.508	40.587113	-104.905625	
8,600.00	59.80	236.13	6,093.03	-2,725.31	-4,059.56	1,457,231.639	3,165,009.750	40.586982	-104.905885	
8,700.00	59.80	236.13	6,143.33	-2,773.48	-4,131.32	1,457,183.466	3,164,937.993	40.586851	-104.906144	
8,800.00	59.80	236.13	6,193.63	-2,821.66	-4,203.07	1,457,135.293	3,164,866.235	40.586720	-104.906404	
8,900.00	59.80	236.13	6,243.93	-2,869.83	-4,274.83	1,457,087.120	3,164,794.477	40.586589	-104.906663	
9,000.00	59.80	236.13	6,294.23	-2,918.00	-4,346.59	1,457,038.947	3,164,722.720	40.586458	-104.906923	
9,041.36	59.80	236.13	6,315.04	-2,937.93	-4,376.27	1,457,019.020	3,164,693.038	40.586404	-104.907030	
KOP 10°/100										
9,100.00	56.36	230.53	6,346.06	-2,967.59	-4,416.19	1,456,989.356	3,164,653.123	40.586324	-104.907174	

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-7X-HNC-10-07-67
Company:	Nickel Road Operating	TVD Reference:	KB @ 5115.00usft
Project:	Sec. 9-T7N-R67W	MD Reference:	KB @ 5115.00usft
Site:	BLEHM Pad	North Reference:	Grid
Well:	BLEHM-7X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,200.00	51.14	219.94	6,405.28	-3,024.05	-4,473.46	1,456,932.900	3,164,595.850	40.586170	-104.907382	
9,300.00	47.02	207.86	6,470.90	-3,086.40	-4,515.65	1,456,870.544	3,164,553.655	40.585999	-104.907535	
9,400.00	44.33	194.38	6,540.92	-3,152.76	-4,541.49	1,456,804.185	3,164,527.819	40.585818	-104.907630	
9,500.00	43.35	179.99	6,613.23	-3,221.11	-4,550.18	1,456,735.838	3,164,519.127	40.585630	-104.907663	
9,600.00	44.20	165.57	6,685.61	-3,289.37	-4,541.46	1,456,667.581	3,164,527.844	40.585443	-104.907633	
9,700.00	46.77	152.00	6,755.88	-3,355.46	-4,515.60	1,456,601.486	3,164,553.705	40.585261	-104.907542	
9,800.00	50.80	139.81	6,821.89	-3,417.39	-4,473.38	1,456,539.563	3,164,595.924	40.585090	-104.907391	
9,800.17	50.80	139.81	6,822.00	-3,417.49	-4,473.30	1,456,539.461	3,164,596.011	40.585090	-104.907391	
Niobrara										
9,900.00	55.94	129.11	6,881.64	-3,473.26	-4,416.09	1,456,483.693	3,164,653.218	40.584936	-104.907186	
10,000.00	61.90	119.72	6,933.32	-3,521.38	-4,345.46	1,456,435.573	3,164,723.847	40.584802	-104.906933	
10,100.00	68.43	111.37	6,975.36	-3,560.28	-4,263.65	1,456,396.666	3,164,805.663	40.584694	-104.906639	
10,200.00	75.34	103.75	7,006.47	-3,588.80	-4,173.13	1,456,368.153	3,164,896.182	40.584614	-104.906314	
10,286.71	81.52	97.54	7,023.87	-3,604.43	-4,089.71	1,456,352.522	3,164,979.596	40.584570	-104.906014	
LPL 7X-HNC 1100 FSL 460 FWL										
10,300.00	82.48	96.61	7,025.72	-3,606.05	-4,076.65	1,456,350.901	3,164,992.653	40.584565	-104.905967	
10,398.66	89.64	89.80	7,032.50	-3,611.52	-3,978.50	1,456,345.429	3,165,090.808	40.584548	-104.905614	
LP 89.64 Inc, 89.80 Az										
10,400.00	89.64	89.80	7,032.51	-3,611.52	-3,977.16	1,456,345.434	3,165,092.145	40.584548	-104.905609	
10,500.00	89.64	89.80	7,033.14	-3,611.16	-3,877.17	1,456,345.786	3,165,192.143	40.584547	-104.905249	
10,600.00	89.64	89.80	7,033.78	-3,610.81	-3,777.17	1,456,346.137	3,165,292.140	40.584546	-104.904889	
10,700.00	89.64	89.80	7,034.41	-3,610.46	-3,677.17	1,456,346.489	3,165,392.137	40.584545	-104.904529	
10,800.00	89.64	89.80	7,035.05	-3,610.11	-3,577.17	1,456,346.841	3,165,492.135	40.584545	-104.904169	
10,900.00	89.64	89.80	7,035.68	-3,609.76	-3,477.18	1,456,347.192	3,165,592.132	40.584544	-104.903809	
11,000.00	89.64	89.80	7,036.32	-3,609.41	-3,377.18	1,456,347.544	3,165,692.129	40.584543	-104.903449	
11,100.00	89.64	89.80	7,036.95	-3,609.05	-3,277.18	1,456,347.896	3,165,792.127	40.584542	-104.903089	
11,200.00	89.64	89.80	7,037.59	-3,608.70	-3,177.18	1,456,348.247	3,165,892.124	40.584541	-104.902729	
11,300.00	89.64	89.80	7,038.23	-3,608.35	-3,077.19	1,456,348.599	3,165,992.121	40.584540	-104.902369	
11,400.00	89.64	89.80	7,038.86	-3,608.00	-2,977.19	1,456,348.951	3,166,092.119	40.584539	-104.902009	
11,500.00	89.64	89.80	7,039.50	-3,607.65	-2,877.19	1,456,349.302	3,166,192.116	40.584538	-104.901649	
11,600.00	89.64	89.80	7,040.13	-3,607.30	-2,777.19	1,456,349.654	3,166,292.114	40.584538	-104.901289	
11,700.00	89.64	89.80	7,040.77	-3,606.94	-2,677.20	1,456,350.006	3,166,392.111	40.584537	-104.900929	
11,800.00	89.64	89.80	7,041.40	-3,606.59	-2,577.20	1,456,350.358	3,166,492.108	40.584536	-104.900569	
11,900.00	89.64	89.80	7,042.04	-3,606.24	-2,477.20	1,456,350.709	3,166,592.106	40.584535	-104.900209	
12,000.00	89.64	89.80	7,042.67	-3,605.89	-2,377.21	1,456,351.061	3,166,692.103	40.584534	-104.899849	
12,100.00	89.64	89.80	7,043.31	-3,605.54	-2,277.21	1,456,351.413	3,166,792.100	40.584533	-104.899489	
12,200.00	89.64	89.80	7,043.94	-3,605.18	-2,177.21	1,456,351.764	3,166,892.098	40.584532	-104.899129	
12,300.00	89.64	89.80	7,044.58	-3,604.83	-2,077.21	1,456,352.116	3,166,992.095	40.584531	-104.898769	
12,400.00	89.64	89.80	7,045.21	-3,604.48	-1,977.22	1,456,352.468	3,167,092.092	40.584530	-104.898409	
12,500.00	89.64	89.80	7,045.85	-3,604.13	-1,877.22	1,456,352.819	3,167,192.090	40.584529	-104.898049	
12,600.00	89.64	89.80	7,046.48	-3,603.78	-1,777.22	1,456,353.171	3,167,292.087	40.584529	-104.897689	
12,700.00	89.64	89.80	7,047.12	-3,603.43	-1,677.22	1,456,353.523	3,167,392.084	40.584528	-104.897329	
12,800.00	89.64	89.80	7,047.75	-3,603.07	-1,577.23	1,456,353.874	3,167,492.082	40.584527	-104.896969	
12,900.00	89.64	89.80	7,048.39	-3,602.72	-1,477.23	1,456,354.226	3,167,592.079	40.584526	-104.896609	
13,000.00	89.64	89.80	7,049.02	-3,602.37	-1,377.23	1,456,354.578	3,167,692.077	40.584525	-104.896249	
13,100.00	89.64	89.80	7,049.66	-3,602.02	-1,277.23	1,456,354.929	3,167,792.074	40.584524	-104.895889	
13,200.00	89.64	89.80	7,050.29	-3,601.67	-1,177.24	1,456,355.281	3,167,892.071	40.584523	-104.895529	
13,300.00	89.64	89.80	7,050.93	-3,601.32	-1,077.24	1,456,355.633	3,167,992.069	40.584522	-104.895169	
13,400.00	89.64	89.80	7,051.56	-3,600.96	-977.24	1,456,355.985	3,168,092.066	40.584521	-104.894809	
13,500.00	89.64	89.80	7,052.20	-3,600.61	-877.24	1,456,356.336	3,168,192.063	40.584520	-104.894449	
13,600.00	89.64	89.80	7,052.83	-3,600.26	-777.25	1,456,356.688	3,168,292.061	40.584520	-104.894089	
13,700.00	89.64	89.80	7,053.47	-3,599.91	-677.25	1,456,357.040	3,168,392.058	40.584519	-104.893729	
13,800.00	89.64	89.80	7,054.10	-3,599.56	-577.25	1,456,357.391	3,168,492.055	40.584518	-104.893368	
13,900.00	89.64	89.80	7,054.74	-3,599.21	-477.26	1,456,357.743	3,168,592.054	40.584517	-104.893008	

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-7X-HNC-10-07-67
Company:	Nickel Road Operating	TVD Reference:	KB @ 5115.00usft
Project:	Sec. 9-T7N-R67W	MD Reference:	KB @ 5115.00usft
Site:	BLEHM Pad	North Reference:	Grid
Well:	BLEHM-7X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
14,000.00	89.64	89.80	7,055.38	-3,598.85	-377.26	1,456,358.095	3,168,692.051	40.584516	-104.892648	
14,100.00	89.64	89.80	7,056.01	-3,598.50	-277.26	1,456,358.446	3,168,792.049	40.584515	-104.892288	
14,200.00	89.64	89.80	7,056.65	-3,598.15	-177.26	1,456,358.798	3,168,892.046	40.584514	-104.891928	
14,300.00	89.64	89.80	7,057.28	-3,597.80	-77.27	1,456,359.150	3,168,992.043	40.584513	-104.891568	
14,400.00	89.64	89.80	7,057.92	-3,597.45	22.73	1,456,359.501	3,169,092.041	40.584512	-104.891208	
14,500.00	89.64	89.80	7,058.55	-3,597.10	122.73	1,456,359.853	3,169,192.038	40.584511	-104.890848	
14,600.00	89.64	89.80	7,059.19	-3,596.74	222.73	1,456,360.205	3,169,292.035	40.584510	-104.890488	
14,700.00	89.64	89.80	7,059.82	-3,596.39	322.72	1,456,360.557	3,169,392.033	40.584509	-104.890128	
14,800.00	89.64	89.80	7,060.46	-3,596.04	422.72	1,456,360.908	3,169,492.030	40.584509	-104.889768	
14,900.00	89.64	89.80	7,061.09	-3,595.69	522.72	1,456,361.260	3,169,592.027	40.584508	-104.889408	
15,000.00	89.64	89.80	7,061.73	-3,595.34	622.72	1,456,361.612	3,169,692.025	40.584507	-104.889048	
15,100.00	89.64	89.80	7,062.36	-3,594.99	722.71	1,456,361.963	3,169,792.022	40.584506	-104.888688	
15,200.00	89.64	89.80	7,063.00	-3,594.63	822.71	1,456,362.315	3,169,892.019	40.584505	-104.888328	
15,300.00	89.64	89.80	7,063.63	-3,594.28	922.71	1,456,362.667	3,169,992.017	40.584504	-104.887968	
15,400.00	89.64	89.80	7,064.27	-3,593.93	1,022.71	1,456,363.018	3,170,092.014	40.584503	-104.887608	
15,500.00	89.64	89.80	7,064.90	-3,593.58	1,122.70	1,456,363.370	3,170,192.012	40.584502	-104.887248	
15,600.00	89.64	89.80	7,065.54	-3,593.23	1,222.70	1,456,363.722	3,170,292.009	40.584501	-104.886888	
15,700.00	89.64	89.80	7,066.17	-3,592.88	1,322.70	1,456,364.073	3,170,392.006	40.584500	-104.886528	
15,800.00	89.64	89.80	7,066.81	-3,592.52	1,422.69	1,456,364.425	3,170,492.004	40.584499	-104.886168	
15,900.00	89.64	89.80	7,067.44	-3,592.17	1,522.69	1,456,364.777	3,170,592.001	40.584498	-104.885808	
16,000.00	89.64	89.80	7,068.08	-3,591.82	1,622.69	1,456,365.129	3,170,691.998	40.584497	-104.885448	
16,100.00	89.64	89.80	7,068.71	-3,591.47	1,722.69	1,456,365.480	3,170,791.996	40.584496	-104.885088	
16,200.00	89.64	89.80	7,069.35	-3,591.12	1,822.68	1,456,365.832	3,170,891.993	40.584495	-104.884728	
16,300.00	89.64	89.80	7,069.98	-3,590.77	1,922.68	1,456,366.184	3,170,991.990	40.584495	-104.884368	
16,400.00	89.64	89.80	7,070.62	-3,590.41	2,022.68	1,456,366.535	3,171,091.988	40.584494	-104.884008	
16,500.00	89.64	89.80	7,071.25	-3,590.06	2,122.68	1,456,366.887	3,171,191.985	40.584493	-104.883648	
16,600.00	89.64	89.80	7,071.89	-3,589.71	2,222.67	1,456,367.239	3,171,291.983	40.584492	-104.883288	
16,700.00	89.64	89.80	7,072.53	-3,589.36	2,322.67	1,456,367.590	3,171,391.980	40.584491	-104.882928	
16,800.00	89.64	89.80	7,073.16	-3,589.01	2,422.67	1,456,367.942	3,171,491.977	40.584490	-104.882568	
16,900.00	89.64	89.80	7,073.80	-3,588.66	2,522.67	1,456,368.294	3,171,591.975	40.584489	-104.882208	
17,000.00	89.64	89.80	7,074.43	-3,588.30	2,622.66	1,456,368.645	3,171,691.972	40.584488	-104.881848	
17,100.00	89.64	89.80	7,075.07	-3,587.95	2,722.66	1,456,368.997	3,171,791.969	40.584487	-104.881488	
17,200.00	89.64	89.80	7,075.70	-3,587.60	2,822.66	1,456,369.349	3,171,891.967	40.584486	-104.881128	
17,300.00	89.64	89.80	7,076.34	-3,587.25	2,922.66	1,456,369.700	3,171,991.964	40.584485	-104.880768	
17,400.00	89.64	89.80	7,076.97	-3,586.90	3,022.65	1,456,370.052	3,172,091.961	40.584484	-104.880408	
17,500.00	89.64	89.80	7,077.61	-3,586.55	3,122.65	1,456,370.404	3,172,191.959	40.584483	-104.880048	
17,600.00	89.64	89.80	7,078.24	-3,586.19	3,222.65	1,456,370.756	3,172,291.956	40.584482	-104.879688	
17,700.00	89.64	89.80	7,078.88	-3,585.84	3,322.64	1,456,371.107	3,172,391.953	40.584481	-104.879328	
17,800.00	89.64	89.80	7,079.51	-3,585.49	3,422.64	1,456,371.459	3,172,491.951	40.584480	-104.878968	
17,900.00	89.64	89.80	7,080.15	-3,585.14	3,522.64	1,456,371.811	3,172,591.948	40.584479	-104.878608	
18,000.00	89.64	89.80	7,080.78	-3,584.79	3,622.64	1,456,372.162	3,172,691.946	40.584478	-104.878248	
18,100.00	89.64	89.80	7,081.42	-3,584.44	3,722.63	1,456,372.514	3,172,791.943	40.584477	-104.877888	
18,200.00	89.64	89.80	7,082.05	-3,584.08	3,822.63	1,456,372.866	3,172,891.940	40.584476	-104.877528	
18,300.00	89.64	89.80	7,082.69	-3,583.73	3,922.63	1,456,373.217	3,172,991.938	40.584475	-104.877168	
18,400.00	89.64	89.80	7,083.32	-3,583.38	4,022.63	1,456,373.569	3,173,091.935	40.584474	-104.876808	
18,500.00	89.64	89.80	7,083.96	-3,583.03	4,122.62	1,456,373.921	3,173,191.932	40.584473	-104.876448	
18,600.00	89.64	89.80	7,084.59	-3,582.68	4,222.62	1,456,374.272	3,173,291.930	40.584472	-104.876088	
18,700.00	89.64	89.80	7,085.23	-3,582.33	4,322.62	1,456,374.624	3,173,391.927	40.584471	-104.875728	
18,800.00	89.64	89.80	7,085.86	-3,581.97	4,422.62	1,456,374.976	3,173,491.924	40.584470	-104.875368	
18,900.00	89.64	89.80	7,086.50	-3,581.62	4,522.61	1,456,375.328	3,173,591.922	40.584469	-104.875008	
19,000.00	89.64	89.80	7,087.13	-3,581.27	4,622.61	1,456,375.679	3,173,691.919	40.584468	-104.874648	
19,100.00	89.64	89.80	7,087.77	-3,580.92	4,722.61	1,456,376.031	3,173,791.916	40.584467	-104.874288	
19,200.00	89.64	89.80	7,088.40	-3,580.57	4,822.61	1,456,376.383	3,173,891.914	40.584466	-104.873928	
19,300.00	89.64	89.80	7,089.04	-3,580.21	4,922.60	1,456,376.734	3,173,991.911	40.584465	-104.873568	
19,400.00	89.64	89.80	7,089.68	-3,579.86	5,022.60	1,456,377.086	3,174,091.909	40.584464	-104.873208	

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-7X-HNC-10-07-67
Company:	Nickel Road Operating	TVD Reference:	KB @ 5115.00usft
Project:	Sec. 9-T7N-R67W	MD Reference:	KB @ 5115.00usft
Site:	BLEHM Pad	North Reference:	Grid
Well:	BLEHM-7X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
19,500.00	89.64	89.80	7,090.31	-3,579.51	5,122.60	1,456,377.438	3,174,191.906	40.584464	-104.872847	
19,600.00	89.64	89.80	7,090.95	-3,579.16	5,222.59	1,456,377.789	3,174,291.903	40.584463	-104.872487	
19,700.00	89.64	89.80	7,091.58	-3,578.81	5,322.59	1,456,378.141	3,174,391.901	40.584462	-104.872127	
19,800.00	89.64	89.80	7,092.22	-3,578.46	5,422.59	1,456,378.493	3,174,491.898	40.584461	-104.871767	
19,888.00	89.64	89.80	7,093.00	-3,578.15	5,510.59	1,456,378.804	3,174,579.895	40.584460	-104.871450	
TD at 19888.00 - TD - BHL 7X-HNC 1100 FSL 460 FEL										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
SHL 7X-HNC 572 FNL 7	0.00	0.00	0.00	0.00	0.00	1,459,956.949	3,169,069.309	40.594387	-104.891201	
- plan hits target center										
- Point										
LPL 7X-HNC 1100 FSL 4	0.00	0.00	7,032.00	-3,611.92	-4,092.70	1,456,345.029	3,164,976.611	40.584549	-104.906025	
- plan misses target center by 11.45usft at 10286.71usft MD (7023.87 TVD, -3604.43 N, -4089.71 E)										
- Point										
BHL 7X-HNC 1100 FSL	0.00	0.00	7,093.00	-3,578.15	5,510.59	1,456,378.804	3,174,579.895	40.584460	-104.871450	
- plan hits target center										
- Point										

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
0.00	0.00	Laramie-Fox Hills				
300.00	300.00	Upper Pierre				
1,314.00	1,314.00	Pierre Shale				
4,850.50	4,207.00	Sussex				
5,544.33	4,556.00	Shannon				
5,601.98	4,585.00	Pierre Shale				
9,800.17	6,822.00	Niobrara				
19,888.00	7,093.00	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,500.00	1,500.00	0.00	0.00	Surf Csg	
1,600.00	1,600.00	0.00	0.00	Start Build 2.00	
4,590.04	4,075.98	-793.58	-1,182.10	Hold 59.80 Inc, 236.13 Az	
9,041.36	6,315.04	-2,937.93	-4,376.27	KOP 10°/100	
10,398.66	7,032.50	-3,611.52	-3,978.50	LP 89.64 Inc, 89.80 Az	
19,888.00	7,093.00	-3,578.15	5,510.59	TD at 19888.00	